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Conservation Needs Inventory

MEAGHER COUNTY, MONTANA

STATE DOCUMENTS COLLECTION

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HELENA, MONTANA 59620

Purpose: Although we are blessed with an abundance, our soil and water resources are not inexhaustible. They must be cared for and used wisely that their productiveness will continue or improve. To assure their wise use we need basic information about the physical problems of conservation, their magnitude, and relative urgency. The Conservation Needs Inventory was performed to gather this information.

How It Was Made: The inventory was initiated in 1959, as part of a national inventory authorized by the Secretary of Agriculture. It is based upon soil surveys of 160 acres drawn at random throughout the county. The survey sample data was expanded to represent actual conditions in the county. The County Committee used this information along with existing agricultural records and their knowledge of the county to develop estimates of expected land use changes by 1975.

Who Did It: The inventory was a cooperative effort of the Meagher County Soil Conservation District Board, the Soil Conservation Service, the Forest Service, the Extension Service, the Agricultural Stabilization and Conservation Service and the Farmers Home Administration.

Contributions from the following made its publication possible:

Smith Lumber and Hardware
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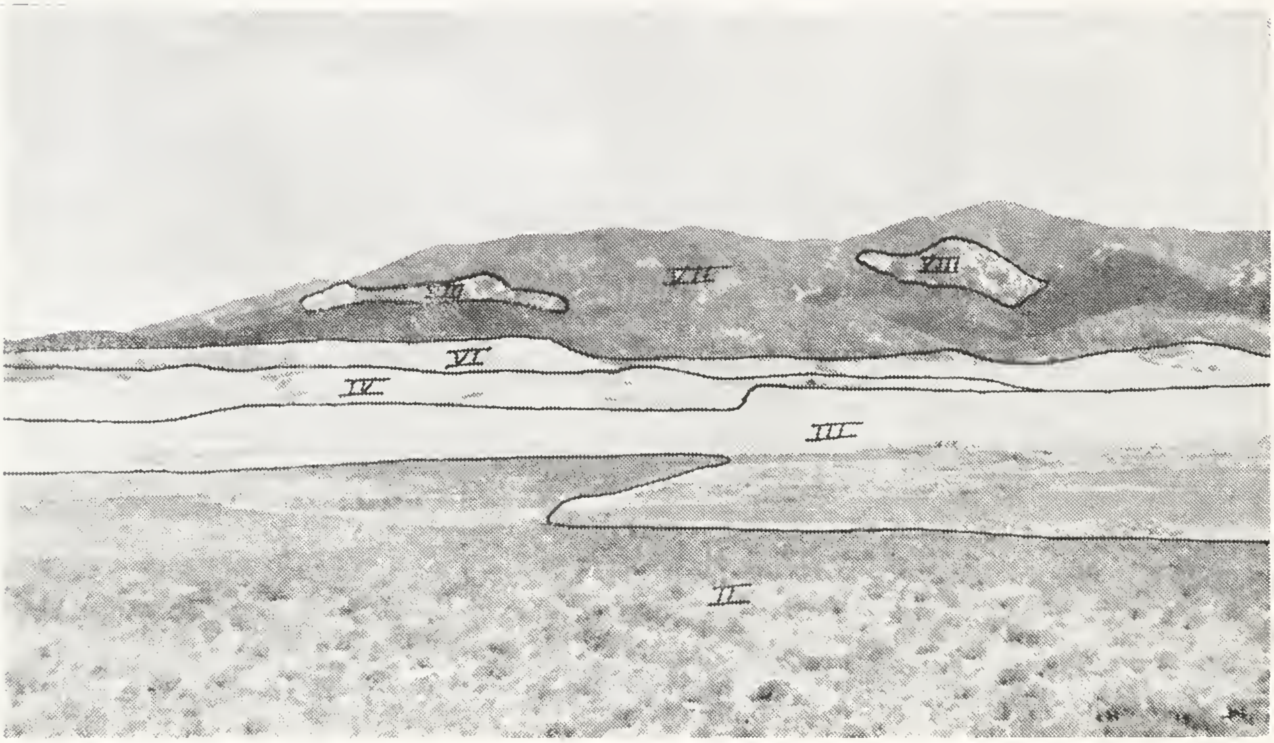
Ansel Bridges, Contractor
Meagher County Farm Bureau
Meagher County Rod and Gun Club
Osborn Farm Supply, Bozeman

Inventory of Lands

MEAGHER COUNTY, MONTANA

The Conservation Needs Inventory was performed in 1959 on privately owned lands used primarily for agricultural purposes. Excluded from the total land area of 1,506,560 acres for Meagher County were the Federal lands of 457,560 acres which include mostly National Forest and BLM lands; the urban areas, industriol areas and rights-of-way which were estimated at 6,770 acres; and the larger areas covered by water estimated at 3,000 acres; leaving 1,309,054 acres for inventory purposes.

By 1975 there will be some changes of inventory acres due to an estimated 200 acres going out of agricultural use for other uses and because of 10,000 acres going into the inventory from sale of BLM lands to private ownership.



LAND CAPABILITY DEFINITION

SUITABLE FOR CULTIVATION			NOT SUITABLE FOR CULTIVATION			
Class II	Class III	Class IV	Class V*	Class VI*	Class VII	Class VIII
Good Land Minor Limitations	Moderately Good Land with Major Limitations	Fairly Good Land Occasional Cultivation with Severe Limitations	Suitable for Pasture, Range and Woodland			Suitable for Wildlife and Watershed
			With no Limitations	With Minor Limitations	With Major Limitations	
Increasing Permanent Limitations						

*Some soils in Classes V and VI can be used for crops with unusually intensive management.

Wheat stubble after first operation sub-surface tilled.

DRY CROPLAND .... 46,000 acres

8% or 3,750 acres adequately treated or not feasible to treat

92% needs treatment and feasible to treat.

a. Erosion is dominant problem	36,750 acres
b. Unfavorable soil is dominant problem	3,400 acres
c. Excess water is dominant problem	1,800 acres
d. Unfavorable climate is dominant problem	800 acres

Field of recent land leveling

IRRIGATED CROPLAND .... 18,000 acres

32% or 5,800 acres adequately treated or not feasible to treat.

68% needs treatment and feasible to treat.

a. Erosion is dominant problem	1,815 acres
b. Unfavorable soil is dominant problem	7,792 acres
c. Excess water is dominant problem	1,228 acres
d. Unfavorable climate is dominant problem	1,365 acres

Native range in excellent condition.

Crested wheatgrass.

GRASSLAND (Range, Tame Grasses, Irrigated Pasture) .... 820,604 acres

19% or 151,354 acres adequately treated or not feasible to treat.

81% needs treatment and feasible to treat.

a. Needs reseeding	21,500 acres
b. Needs improvement of vegetative cover	416,500 acres
c. Needs protection from over-grazing	231,250 acres
d. Needs stock water	151,000 acres
e. Needs fire protection	300,000 acres
f. Needs erosion control	79,000 acres
g. Needs rodent control	11,200 acres
h. Needs control of encroaching plants	2,800 acres
i. Needs insect and disease control	200,300 acres
j. Needs water conservation	55,000 acres
k. Excess water is dominant problem	5,100 acres

Woodland

WOODLAND (includes grazed woodland)	**159,000 acres**
a. Needs establishment of stand	60,000 acres
b. Needs stand improvement	80,000 acres
c. Needs fire protection	144,000 acres
d. Needs insect and disease control	159,000 acres
e. Needs protection from animals	20,000 acres
f. Needs erosion control	10,000 acres
g. Needed shelterbelts (20 miles)	160 acres

EXPLANATION OF LAND USE CHANGES FROM 1959 TO 1975
MEAGHER COUNTY, MONTANA

Irrigated Cropland will increase from 16,000 to 18,000 acres, with most of the increase in scattered small acreages. Contributing factors will be construction of new small reservoirs, clearing of brush lands, drilling of irrigation wells, and drainage of wetlands. With the increasing of drain ditches in the Smith River Valley, there should be an increase of irrigated cropland and a decrease of sub-irrigated pasture and native hay in that area.

Dry Cropland will increase from 41,235 to 46,000 acres. The largest area of increase will occur on benchlands southwest of White Sulphur Springs where range lands will be plowed and seeded to grain. There may be a slight decrease in the next few years under the agricultural program to reduce surplus grain crops; however by 1975 the food demand of a larger population should eliminate the surplus problem.

Tame Pasture will increase from 2,000 to 5,000 acres. The need for early spring pasture and the seeding of tame grasses on lands cleared of heavy sagebrush and on badly over grazed range lands will contribute to the increased acreage.

Native Range will decrease by about 10,000 acres. Most of the decrease will go into irrigated cropland, dry cropland, tame pasture, and irrigated native pasture.

Irrigated Native Pasture will increase slightly (from 15,000 to 15,500 acres) because of clearing of brushlands, increased use of water spreading, and drainage of wetlands. The increase does not reflect the shift of some subirrigated native range to irrigated hayland or some irrigated native range to irrigated cropland.

Woodland will remain about the same at 159,000 acres. Most of these lands are used for limited grazing and are not generally suitable for cultivation.

Other Lands will increase from 4,888 to 5,250 acres. Most of the increase will be due to wider roads and urban development.

CONSERVATION NEEDS PROBLEMS AND TREATMENT

Inventory data of Meagher County indicated that much conservation is needed to adequately protect our soil and water resources.

Wind Erosion Control

There is only slight wind erosion on dry cropland that is apparent during normal years; however, there is little protection against adverse years. Stubble mulching is practiced on a limited scale, but there is very little strip-cropping in the county. Normally there is little wind erosion on grasslands; however, improvement of vegetative cover on overgrazed lands is needed to adequately protect such lands.

Water Erosion Control and Water Conservation

There is evidence of some water erosion in the county, but it is not normally a serious problem except on steeply sloping areas. Practices such as contour strips, stubble mulching and grassed waterways on cropland; shorter runs and less head on the more sloping irrigated lands; improvement of vegetative cover on grasslands; and improvement of timber stands would aid in reducing further water erosion.

Water conservation practices such as land leveling, redesigning irrigation systems, soil probing for depth of moisture during irrigation, construction of new reservoirs and enlarging of existing reservoirs, and lining canals and dams would aid in water conservation.

Watershed Inventory

There were no watersheds under investigation at the time of the inventory: however, there are several possibilities. Those that may be considered are one on the South Fork of the Smith River; one on Newlan Creek, and several others on tributaries in the county.

Generally on most of the watersheds, proper soil and water conservation practices would adequately protect our soil and water resources.

MEAGHER COUNTY — LAND USE CHANGE BY CAPABILITY CLASSES

Land Use 1958	Land Capability Class	Acreage In Land Use	LAND USE CHANGE BY 1975						
			Cropland		Grassland				
			Irrigated	Dry	Tame	Range	Irrigated	Woodland	Other
Irrigated Cropland	II	13,813	13,813						
	III	1,915	1,900						15
	VII	272	272						
	Sub-Total	16,000							
Dry Cropland	II	16,000	1,300	14,630					70
	III	21,000	300	20,150	530				20
	IV	4,235		4,035	100		100		
	Sub-Total	41,235							
Tame Pasture	IV	2,000			2,000				
	Sub-Total	2,000							
Native Range	II	39,530	100	2,500	800	36,000	100		30
	III	164,357	115	4,300	1,570	157,670	520		182
	IV	40,607		385		40,197			25
	V	1,935				1,935			
	VI	488,970				488,770			200
	VII	65,531				65,531			
	Sub-Total	800,930							
Irrigated Native	II	7,031	200				6,811		20
	III	5,156					5,156		
	V	1,095					1,095		
	VI	1,718					1,718		
	Sub-Total	15,000							
Woodland	III	2,210						2,210	
	VI	139,474						139,474	
	VII	17,316						17,316	
	Sub-Total	159,000							
Other Lands	II	2,149							2,149
	III	270							270
	IV	49							49
	V	25							25
	VI	2,346							2,346
	VII	49							49
	Sub-Total	4,888							
BLM Land Inventory		10,000				10,000			
GRAND TOTAL		1,049,053	18,000	46,000	5,000	800,103	15,500	159,000	5,450

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